Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

Guidelines of care for the management of atopic dermatitis. Section 2. Management and treatment of atopic dermatitis with topical therapies.

Bibliographic Source(s)

Eichenfield LF, Tom WL, Berger TG, Krol A, Paller AS, Schwarzenberger K, Bergman JN, Chamlin SL, Cohen DE, Cooper KD, Cordoro KM, Davis DM, Feldman SR, Hanifin JM, Margolis DJ, Silverman RA, Simpson EL, Williams HC, Elmets CA, Block J, Harrod CG, Smith Begolka W, Sidbury R. Guidelines of care for the management of atopic dermatitis. Section 2. Management and treatment of atopic dermatitis with topical therapies. J Am Acad Dermatol. 2014 Jul;71(1):116-32. [130 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Hanifin JM, Cooper KD, Ho VC, Kang S, Krafchik BR, Margolis DJ, Schachner LA, Sidbury R, Whitmore SE, Sieck CK, Van Voorhees AS. Guidelines of care for atopic dermatitis. J Am Acad Dermatol. 2004 Mar;50(3):391-404. [212 references]

Recommendations

Major Recommendations

Level of evidence grades (I-III) and strength of recommendations (A-C) are defined at the end of the "Major Recommendations" field.

Note from the National Guideline Clearinghouse (NGC): Recommendations on atopic dermatitis (AD) treatment and management are subdivided into 4 sections given the significant breadth of the topic. This document is the second part of the series and covers the use of nonpharmacologic approaches (e.g., moisturizers, bathing practices, and wet wraps), along with pharmacologic topical modalities, including corticosteroids, calcineurin inhibitors, antimicrobials, and antihistamines.

Recommendations for Nonpharmacologic Interventions for the Treatment of AD

- The application of moisturizers should be an integral part of the treatment of patients with AD as there is strong evidence that their use can reduce disease severity and the need for pharmacologic intervention.
- Bathing is suggested for patients with AD as part of treatment and maintenance; however, there is no standard for the frequency or duration of bathing appropriate for those with AD.
- Moisturizers should be applied soon after bathing to improve skin hydration in patients with AD.
- Limited use of nonsoap cleansers (that are neutral to low pH, hypoallergenic, and fragrance free) is recommended.
- For the treatment of patients with AD, the addition of oils, emollients, and most other additives to bath water and the use of acidic spring water cannot be recommended at this time, because of insufficient evidence.

- Use of wet-wrap therapy with or without a topical corticosteroid (TCS) can be recommended for patients with moderate to severe AD to decrease disease severity and water loss during flares.

Strength of Recommendations for the Use of Topical Therapies in the Treatment of AD

Recommendation	Strength of Recommendation	Level of Evidence	References
Use of moisturizers	A	I	Breternitz et al., 2008; Peris et al., 2002; Korting et al., 2010; Verallo-Rowell, Dillague, & Syah-Tjundawan, 2008; Grimalt, Mengeaud, & Cambazard, 2007; Tan et al., 2010; Msika et al., 2008; Draelos, 2009; Chamlin et al., 2002; Eberlein et al., 2008; Sugarman & Parish, 2009; Miller et al., 2011; Lucky et al., 1997
Bathing and bathing practices	C	III	Gutman et al., 2005; Chiang & Eichenfield, 2009; Hon et al., 2005; White, Jenkinson, & Lloyd, 1987; Cheong, 2009
Application of moisturizers after bathing	B	II	Chiang & Eichenfield, 2009; Simpson et al., 2012
Limited use of nonsoap cleansers	C	III	Ananthapadmanabhan et al., 2004; White, Jenkinson, & Lloyd, 1987; Solodkin et al., 2006; Cheong, 2009
Against use of bath additives, acidic spring water	C	III	Loden, Buraczewska, & Edlund, 2004; Kubota et al., 1997; De Paepe et al., 2002
Wet-wrap therapy	B	II	Dabade et al., 2012; Devillers & Oranje, 2006; Schnopp et al., 2002; Wolkerstorfer et al., 2000; Devillers et al., 2002; Goodyear, Spowart & Harper, 1991; Pei, Chan, & Ho, 2001; Hindley et al., 2006
Use of topical corticosteroids (TCS)	A	I	Hoare, Li Wan Po, & Williams, 2000; Lassus, 1983; Yawalkar & Schwerzmann, 1991; Eichenfield et al., 2007; Yentzer et al., 2010
> Consideration of a variety of factors in TCS selection	C	III	Thomas et al., 2002; Del Rosso & Friedlander, 2005; Abramovits, 2005
> Frequency of application	B	II	Williams, 2007; Woods et al., 2011; Bieber et al., 2007
> Proactive use of TCS for maintenance	B	II	Schmitt et al., 2011; Hanifin, Gupta, & Rajagopalan, 2002; Glazenburg et al., 2009
> Need for consideration of side effects with use	A	I	Callen et al., 2007; Pariser, 2009; Hengge et al., 2006
> Need for monitoring for cutaneous side effects with potent TCS	B	III	Callen et al., 2007; Pariser, 2009; Hengge et al., 2006
> Specific routine monitoring for systemic side effects with TCS not needed	C	III	Callen et al., 2007; Pariser, 2009; Ellison et al., 2000; Hengge et al., 2006
> Addressing fears with use	B	III	Charman, Morris, & Williams, 2000; Beattie & Lewis-Jones, 2003; Cork et al., 2003

Recommendation	Strength of Recommendation	Level of Evidence	References
Use of topical calcineurin inhibitors (TCI)	A	I	Breuer, Werfel, & Kapp, 2005; El-Batawy et al., 2009; Ashcroft et al., 2005
Use as steroid-sparing agents	A	I	Kapp et al., 2002; Wahn et al., 2002
Off-label use of TCI in those aged <2 years	A	I	El-Batawy et al., 2009; Chen, Yan, & Wang, 2010
Counseling on local reactions with TCI and the preceding use of TCS	B	II	Ashcroft et al., 2005; Draelos, 2008; Frankel & Qureshi, 2012
Proactive use of TCI for maintenance	A	I	Schmitt et al., 2011; Breneman et al., 2008; Paller et al., 2008; Thaci et al., 2010
Concomitant TCS and TCI use	B	II	Kapp et al., 2002; Wahn et al., 2002; Nakahara et al., 2004; Hebert et al., 2006; Torok, Maas-Irslinger, & Slayton, 2003; Spergel et al., 2007
Informing patients regarding theoretical risk of cutaneous viral infections with use	C	III	Kapp et al., 2002; Koo et al., 2005
Awareness of black-box warning of TCI	C	III	Koo et al., 2005; Tennis, Gelfand, & Rothman, 2011; Arellano et al., 2007; Arellano et al., 2009
Routine monitoring of TCI blood levels not needed	A	I	Van Leent et al., 2002; Alaiti et al., 1998
Against routine use of topical antistaphylococcal treatments	A	I	Bath-Hextall et al., 2010; Schuttelaar & Coenraads, 2008; Hung et al., 2007
Bleach baths and intranasal mupirocin for those with moderate to severe atopic dermatitis (AD) and clinical infection	B	II	Huang et al., 2009
Against use of topical antihistamines	B	II	Hoare, Li Wan Po, & Williams, 2000; Berberian et al., 1999; Drake, Fallon, & Sober, 1994; Bonnel et al., 2003

Recommendations for the Use of TCS for the Treatment of AD

- TCS are recommended for AD-affected individuals who have failed to respond to good skin care and regular use of emollients alone.
- A variety of factors should be considered when choosing a particular topical corticosteroid for the treatment of AD, including patient age, areas of the body to which the medication will be applied, and other patient factors such as degree of xerosis, patient preference, and cost of medication.
- Twice-daily application of corticosteroids is generally recommended for the treatment of AD; however, evidence suggests that once-daily

application of some corticosteroids may be sufficient.

- Proactive, intermittent use of topical corticosteroids as maintenance therapy (1 to 2 times per week) on areas that commonly flare is recommended to help prevent relapses and is more effective than use of emollients alone.
- The potential for both topical and systemic side effects, including possible hypothalamic-pituitary-adrenal axis suppression, should be considered, particularly in children with AD in whom corticosteroids are used.
- Monitoring by physical examination for cutaneous side effects during long-term, potent steroid use is recommended.
- No specific monitoring for systemic side effects is routinely recommended for patients with AD.
- Patient fears of side effects associated with the use of topical corticosteroids for AD should be recognized and addressed to improve adherence and avoid undertreatment.

Refer to Table V in the original guideline document for information regarding relative potencies of TCS.

Recommendations for the Use of Topical Calcineurin Inhibitors (TCI) for the Treatment of AD

- TCI are recommended and effective for acute and chronic treatment, along with maintenance, in both adults and children with AD, and are particularly useful in selected clinical situations (see Box 1 in the original guideline document).
- TCI are recommended for use on actively affected areas as a steroid-sparing agent for the treatment of AD.
- For patients with AD <2 years of age with mild to severe disease, off-label use of 0.03% tacrolimus or 1% pimecrolimus ointment can be recommended.
- Pimecrolimus cream and tacrolimus ointment may cause skin burning and pruritus, especially when applied to acutely inflamed skin. Initial treatment of patients with AD using TCS should be considered to minimize TCI application site reactions. Patients with AD should be counseled about the possibility of these reactions.
- Proactive, intermittent use of TCI as maintenance therapy (2 to 3 times per week) on areas that commonly flare is recommended to help prevent relapses while reducing the need for topical corticosteroids, and is more effective than the use of emollients alone.
- The concomitant use of a topical corticosteroid with a TCI may be recommended for the treatment of AD.
- No consistent increases in the prevalence of cutaneous viral infections have been seen with continuous or intermittent use of TCI for up to 5 years; however, physicians should inform their patients of these theoretical cutaneous risks, given the lack of safety data for longer periods of time.
- Clinicians should be aware of the black-box warning on the use of TCI for patients with AD and discuss as warranted.
- Routine blood monitoring of tacrolimus and pimecrolimus levels in patients with AD who are applying these agents is not recommended at this time.

Recommendations for the Use of Topical Antimicrobials and Antiseptics for the Treatment of AD

- Except for bleach baths with intranasal mupirocin, no topical antistaphylococcal treatment has been shown to be clinically helpful in patients with AD, and is not routinely recommended.
- In patients with moderate to severe AD and clinical signs of secondary bacterial infection, bleach baths and intranasal mupirocin may be recommended to reduce disease severity.

Recommendation for the Use of Topical Antihistamines for the Treatment of AD

The use of topical antihistamines for the treatment of patients with AD is not recommended because of the risk of absorption and of contact dermatitis.

Definitions:

Level of Evidence

I. Good-quality patient-oriented evidence (i.e., evidence measuring outcomes that matter to patients: morbidity, mortality, symptom improvement, cost reduction, and quality of life).
II. Limited-quality patient-oriented evidence.
III. Other evidence, including consensus guidelines, opinion, case studies, or disease-oriented evidence (i.e., evidence measuring intermediate, physiologic, or surrogate end points that may or may not reflect improvements in patient outcomes).

Grade of Recommendation

A. Recommendation based on consistent and good-quality patient-oriented evidence.
B. Recommendation based on inconsistent or limited-quality patient-oriented evidence.

C. Recommendation based on consensus, opinion, case studies, or disease-oriented evidence.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Atopic dermatitis (AD; atopic eczema)

Note: The treatment of other forms of dermatitis, such as irritant dermatitis and allergic contact dermatitis in those without AD, are outside the scope of this document.

Guideline Category

Management

Treatment

Clinical Specialty

Allergy and Immunology

Dermatology

Family Practice

Internal Medicine

Pediatrics

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To address the management of pediatric and adult atopic dermatitis (AD; atopic eczema) of all severities

Target Population

Pediatric and adult patients with atopic dermatitis (AD; atopic eczema)

Interventions and Practices Considered

1. Nonpharmacologic interventions
    - Moisturizers
    - Bathing practices
    - Limited use of nonsoap cleansers
    - Wet-wrap therapy
2. Topical corticosteroids (TCS)
3. Topical calcineurin inhibitors (TCI)
    - Topical tacrolimus ointment
    - Pimecrolimus cream
    - Consideration of black box warning for use of TCI
4. Topical antimicrobials and antiseptics (bleach baths with intranasal mupirocin)
5. Topical antihistamines (not recommended)

Major Outcomes Considered

- Morbidity
- Mortality
- Symptom improvement
- Cost
- Quality of life

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

An evidence-based approach was used and evidence was obtained using a systematic search of PubMed, the Cochrane Library, and the Global Resources for Eczema Trials databases from November 2003 through November 2012 for clinical questions addressed in the previous version of this guideline published in 2004, and 1964 through 2012 for all newly identified clinical questions. Searches were prospectively limited to publications in the English language. Medical subject headings (MeSH) terms used in various combinations in the literature search included: "atopic dermatitis," "atopic eczema," "topical agents," "topicals," "nonpharmacologic," "barrier," "emollient," "moisturizer," "bathing," "oil," "topical corticosteroid," "hydrocortisone," "calcineurin inhibitor," "tacrolimus," "pimecrolimus," "coal tar," "phosphodiesterase inhibitors," "antimicrobial," "antiseptic," "retapamulin," "triclosan," "chlorhexidine," "beta-thujaplicin," "mupirocin," "triclocarban," "antibacterial soap," "topical antibiotic," "pseudomonic acid," and "potassium permanganate."

A total of 1789 abstracts were initially assessed for possible inclusion. After removal of duplicate data, 246 were retained for final review based on relevancy and the highest level of available evidence for the outlined clinical questions.

The American Academy of Dermatology's (AAD's) prior published guidelines on atopic dermatitis (AD) were also evaluated, as were other current published guidelines on AD.

Number of Source Documents

246 publications were retained for final review

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Evidence was graded using a 3-point scale based on the quality of study methodology as follows:

I. Good-quality patient-oriented evidence (i.e., evidence measuring outcomes that matter to patients: morbidity, mortality, symptom improvement, cost reduction, and quality of life).
II. Limited-quality patient-oriented evidence.
III. Other evidence, including consensus guidelines, opinion, case studies, or disease-oriented evidence (i.e., evidence measuring intermediate, physiologic, or surrogate end points that may or may not reflect improvements in patient outcomes).

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Evidence tables were generated for these studies and used by the work group in developing recommendations.

The available evidence was evaluated using a unified system called the Strength of Recommendation Taxonomy (SORT) developed by editors of the U.S. family medicine and primary care journals (i.e., *American Family Physician, Family Medicine, Journal of Family Practice*, and *BMJ USA*). Evidence was graded using a 3-point scale based on the quality of study methodology (e.g., randomized control trial [RCT], case-control, prospective/retrospective cohort, case series), and the overall focus of the study (i.e., diagnosis, treatment/prevention/screening, or prognosis). (See the "Rating Scheme for the Strength of the Evidence" field.)

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

A work group of recognized atopic dermatitis (AD) experts was convened to determine the audience and scope of the guideline, and to identify important clinical questions in the use of topical therapies for AD management.

Clinical questions used to structure the evidence review for the management and treatment of AD with topical therapies:

- What is the effectiveness of nonpharmacologic interventions such as moisturizers, prescription emollient devices, bathing practices and oils, and wet wraps for the treatment of AD?
- What are the efficacy, optimal dose, frequency of application, and adverse effects of the following agents used as monotherapy or in combination with other topical agents for the treatment of AD?
    - Topical corticosteroids
    - Topical calcineurin inhibitors
    - Topical antimicrobials/antiseptics
    - Topical antihistamines
    - Others (e.g., coal tar, phosphodiesterase inhibitors)

Clinical recommendations were developed based on the best available evidence. In those situations where documented evidence-based data were not available, expert opinion was used to generate clinical recommendations.

Rating Scheme for the Strength of the Recommendations

Clinical recommendations were developed based on the best available evidence. These are ranked as follows:

A. Recommendation based on consistent and good-quality patient-oriented evidence.
B. Recommendation based on inconsistent or limited-quality patient-oriented evidence.
C. Recommendation based on consensus, opinion, case studies, or disease-oriented evidence.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This guideline has been developed in accordance with the American Academy of Dermatology (AAD)/AAD Association *Administrative Regulations for Evidence-based Clinical Practice Guidelines* (version approved May 2010), which includes the opportunity for review and comment by the entire AAD membership and final review and approval by the AAD Board of Directors.

Evidence Supporting the Recommendations

References Supporting the Recommendations

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Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for selected recommendations (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management and treatment of pediatric and adult atopic dermatitis (AD)

Potential Harms

- Topical corticosteroids (TCS)
  - Greater caution regarding TCS potency is needed when treating thin skin sites (i.e., face, neck, and other skin folds), where there is greater penetration and higher likelihood for systemic absorption. It is important to monitor quantities of TCS used over time, which may impact efficacy and safety.
  - Cutaneous side effects include purpura, telangiectasia, striae, focal hypertrichosis, and acneiform or rosacea-like eruptions. Of greatest concern is skin atrophy, which can be induced by any TCS, though higher-potency agents, occlusion, use on thinner skin, and older patient age increase this risk. Many of these side effects will resolve after discontinuing TCS use, but may take months. Sites of treatment should be assessed regularly for these adverse effects, particularly with use of more potent agents. Continuous application of TCS for long periods of time should be avoided, to limit the occurrence of negative changes. Proactive, once to twice weekly application of mid-potency TCS for up to 40 weeks has not demonstrated these adverse events in clinical trials.
  - TCS application on atopic dermatitis (AD) lesions does reduce *Staphylococcus aureus* bacterial load, likely via decreasing the inflammatory cytokines that inhibit antimicrobial peptide production. There is some worry that TCS may impair the process of wound healing and re-epithelialization, although excoriated and fissured lesions should be included in treatment given that the underlying inflammation and pruritus lead to these secondary changes. Allergic contact dermatitis/type IV hypersensitivity can develop to TCS or other ingredients in their formulations, such as propylene glycol and preservatives. This should be considered if lesions fail to respond as expected or worsen with application. Patch testing is needed to determine if the allergen is the steroid compound itself or a component of the vehicle. Development of tachyphylaxis is of concern for some practitioners, where the efficacy is thought to decrease with repeated use of the same agent, although data are lacking to suggest that this is a significant clinical problem. Although there is documented risk with systemic corticosteroid use, an association between topical steroid use and the development of cataracts or glaucoma is not as clear. Nonetheless, minimizing use at periocular sites may be prudent.
  - Topically applied corticosteroids, particularly high- and very high-potency agents, can be absorbed at a degree sufficient to cause systemic side effects. The risk of hypothalamic-pituitary-adrenal axis suppression is low but increases with prolonged continuous use, especially in individuals receiving corticosteroids concurrently in other forms (inhaled, intranasal, or oral). Children are more susceptible as a result of a greater body surface to weight ratio. There is also some concern for negative effects on linear growth, although reports have given mixed conclusions. Hyperglycemia and hypertension have rarely been reported.
- Topical calcineurin inhibitors (TCI)
  - The most common side effects seen are local reactions such as stinging and burning. These symptoms are more frequent than that seen with TCS, but tend to lessen after several applications or when first preceded by a short period of topical steroid use. Patients should be advised of these adverse effects to avoid premature discontinuation of treatment. There are scattered reports of allergic contact dermatitis and a rosacea-like granulomatous reaction caused by TCI.
  - Patients with flaring and/or severe AD are at risk for secondary infections as a result of the skin disease (see section "Topical Antimicrobials and Antiseptics" in the original guideline document). The effect of continuation of TCI treatment on infected lesions has not been studied, but the prescribing information advocates against their use during acute infection. As with TCS, topical tacrolimus applied to noninfected lesions has been associated with reduced *Staphylococcus aureus* colonization, also likely a result of reduced inflammation and barrier dysfunction. No consistent increases in the prevalence of cutaneous viral infections have been demonstrated with continuous or intermittent use of TCI for up to 5 years. However, physicians should inform their patients of these theoretical risks given the lack of long-term safety data.
  - TCI boxed warning should be discussed with patients before use. Rare cases of malignancy (e.g., skin cancer and lymphoma) have been reported in patients treated with these agents, although a causal relationship has not been established.

Qualifying Statements

Qualifying Statements

- Adherence to these guidelines will not ensure successful treatment in every situation. Furthermore, these guidelines should not be interpreted

as setting a standard of care, or be deemed inclusive of all proper methods of care nor exclusive of other methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding the propriety of any specific therapy must be made by the physician and the patient in light of all the circumstances presented by the individual patient, and the known variability and biological behavior of the disease. This guideline reflects the best available data at the time the guideline was prepared. The results of future studies may require revisions to the recommendations in this guideline to reflect new data.

- In review of the currently available highest level of evidence, the expert work group acknowledges that although much is known about the use of nonpharmacologic and pharmacologic topical therapies for atopic dermatitis (AD), much has yet to be learned.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Patient Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Eichenfield LF, Tom WL, Berger TG, Krol A, Paller AS, Schwarzenberger K, Bergman JN, Chamlin SL, Cohen DE, Cooper KD, Cordoro KM, Davis DM, Feldman SR, Hanifin JM, Margolis DJ, Silverman RA, Simpson EL, Williams HC, Elmets CA, Block J, Harrod CG, Smith Begolka W, Sidbury R. Guidelines of care for the management of atopic dermatitis. Section 2. Management and treatment of atopic dermatitis with topical therapies. J Am Acad Dermatol. 2014 Jul;71(1):116-32. [130 references] PubMed

Adaptation

Not applicable: The guideline was not adapted from another source.

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Guideline Developer(s)

American Academy of Dermatology - Medical Specialty Society

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Guideline Committee

Atopic Dermatitis Work Group

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Financial Disclosures/Conflicts of Interest

The American Academy of Dermatology (AAD) strives to produce clinical guidelines that reflect the best available evidence supplemented with the judgment of expert clinicians. Significant efforts are taken to minimize the potential for conflicts of interest to influence guideline content. Funding of guideline production by medical or pharmaceutical entities is prohibited, full disclosure is obtained and evaluated for all guideline contributors, and recusal is used to manage identified relationships. The AAD conflict of interest policy summary may be viewed at www.aad.org .

Work group members completed a disclosure of interests that was updated and reviewed for potential relevant conflicts of interest throughout guideline development. If a potential conflict was noted, the work group member recused himself or herself from discussion and drafting of recommendations pertinent to the topic area of the disclosed interest.

The below information represents the authors identified relationships with industry that are relevant to the guideline. Relevant relationships requiring recusal for the drafting of guideline recommendations are noted where applicable for each author. The management of conflict of interest for this guideline complies with the Council of Medical Specialty Societies' *Code of Interactions with Companies*.

Dr Eichenfield served as a consultant for Anacor, Bayer, and Leo Pharma receiving honoraria, and TopMD receiving stock options; was a consultant and speaker for Galderma receiving honoraria; served as a consultant, speaker, and member of the advisory board for Medicis/Valeant receiving honoraria; and was an investigator for Anacor, Astellas, Galderma, and Leo Pharma receiving no compensation. Dr Eichenfield was recused from discussions and voting on recommendations addressing moisturizers.

Dr Tom served as an investigator for Anacor receiving no compensation.

Dr Krol served as an investigator for Pierre-Fabre receiving grants.

Dr Paller served as a consultant to Anacor, Galderma, Leo Pharma, Promius, Sanofi/Regeneron, and TopMD receiving honoraria, and was an investigator for Astellas, Galderma, Leo Pharma, and TopMD receiving no compensation.

Dr Bergman served as a consultant for Pediapharm receiving honoraria. Dr Bergman was recused from discussions and voting on recommendations addressing moisturizers.

Dr Chamlin served on the advisory boards for Galderma, Promius, and Valeant receiving honoraria. Dr Chamlin was recused from discussions and voting on recommendations addressing moisturizers.

Dr Cohen served on the advisory boards and as a consultant for Ferndale Labs, Galderma, and Onset receiving honoraria; served on the board of directors and as a consultant for Brickell Biotechnology and Topica receiving honoraria, stock, and stock options; and was a consultant for Dermira and Dr Tattoff receiving honoraria and stock options. Dr Cohen was recused from discussions and voting on recommendations addressing moisturizers and topical steroids.

Dr Cooper served as a consultant for Kimberly Clark receiving salary. Dr Cooper was recused from discussions and voting on recommendations addressing paper products.

Dr Feldman served on the advisory boards for Amgen, Doak, Galderma, Pfizer, Pharmaderm, Skin Medica, and Stiefel receiving honoraria; was a consultant for Abbott, Astellas, Caremark, Coria, Gerson Lehrman, Kikaku, Leo Pharma, Medicis, Merck, Merz, Novan, Peplin, and Pfizer receiving honoraria, and Celgene, HanAll, and Novartis receiving other financial benefits; was a speaker for Abbott, Amgen, Astellas, Centocor, Dermatology Foundation, Galderma, Leo Pharma, Novartis, Pharmaderm, Sanofi-Aventis, Stiefel, and Taro receiving honoraria; served as a stockholder and founder for Causa Technologies and Medical Quality Enhancement Corporation receiving stock; served as an investigator for Abbott, Amgen, Anacor, Astellas, Basilea, Celgene, Centocor, Galderma, Medicis, Skin Medica, and Stiefel receiving grants, and Suncare Research receiving honoraria; and had other relationships with Informa, UptoDate, and Xlibris receiving royalty, and Medscape receiving honoraria. Dr Feldman was recused from discussions and voting on recommendations addressing moisturizers.

Dr Hanifin served on the advisory board for Chugai Pharma USA receiving honoraria; was a consultant for GlaxoSmithKline, Merck Elocon Advisory Board, Pfizer, and Valeant Elidel Advisory Board receiving honoraria; and served as an investigator for Asubio, Dohme, and Merck Sharp receiving grants.

Dr Margolis served as a principal investigator for a Valeant postmarketing study. All sponsored research income was paid directly to his employer.

Dr Silverman served as a speaker for Galderma and Promius receiving honoraria. Dr Silverman was recused from discussions and voting on recommendations addressing moisturizers.

Dr Simpson served as a consultant for Asubio, Brickell Biotech, Galderma, Medicis, Panmira Pharmaceuticals, and Regeneron, and a speaker for Centocor and Galderma receiving honoraria; and was an investigator for Amgen, Celgene, Galderma, and Regeneron receiving other financial benefits. Dr Simpson was recused from discussions and voting on recommendations addressing moisturizers.

Dr Elmets served on a data safety monitoring board for Astellas receiving honoraria.

Drs Berger, Schwarzenberger, Cordoro, Davis, Williams, and Sidbury, Ms Block, Mr Harrod, and Ms Smith Begolka have no conflicts of interest to declare.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Hanifin JM, Cooper KD, Ho VC, Kang S, Krafchik BR, Margolis DJ, Schachner LA, Sidbury R, Whitmore SE, Sieck CK, Van Voorhees AS. Guidelines of care for atopic dermatitis. J Am Acad Dermatol. 2004 Mar;50(3):391-404. [212 references]

Guideline Availability

Electronic copies: Available from the American Academy of Dermatology Association Web site .

Print copies: Available from the AAD, PO Box 4014, Schaumburg, IL 60168-4014, Phone: (847) 330-0230 ext. 333; Fax: (847) 330-1120; Web site: www.aad.org .

Availability of Companion Documents

The following is available:

- American Academy of Dermatology (AAD) guideline development process. Schaumburg (IL): American Academy of Dermatology (AAD). Electronic copies: Available from the American Academy of Dermatology Web site .

Patient Resources

The following is available:

- Atopic dermatitis. For the public. Schaumburg (IL): American Academy of Dermatology (AAD). Available from the American Academy of Dermatology (AAD) Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI on April 19, 2004. The information was verified by the guideline developer on May 19, 2004. This summary was updated by ECRI on March 15, 2005 following release of a public health advisory from the U.S. Food and Drug Administration regarding the use of Elidel. This summary was updated by ECRI on January 31, 2006, following release of a public health advisory from the U.S. Food and Drug Administration regarding the use of Elidel Cream (pimecrolimus) and Protopic Ointment (tacrolimus). This summary was updated by ECRI Institute on November 6, 2007, following the U.S. Food and Drug Administration advisory on CellCept (mycophenolate mofetil). This summary was updated by ECRI Institute on July 8, 2008, following the updated U.S. Food and Drug Administration (FDA) advisory on CellCept (mycophenolate mofetil) and Myfortic (mycophenolate acid). This summary was updated by ECRI Institute on February 19, 2009, following the U.S. Food and Drug Administration (FDA) advisory on CellCept (mycophenolate mofetil). This summary was updated by ECRI Institute on March 26, 2009, following the updated FDA advisory on CellCept and Myfortic. This summary was updated by ECRI Institute on August 18, 2009, following the revised FDA advisory on CellCept (mycophenolate mofetil). This summary was updated by ECRI Institute on August 24, 2009, following the revised FDA advisory on CellCept (mycophenolate mofetil). This summary was updated by ECRI Institute on September 11, 2009, following the revised FDA advisory on Myfortic (mycophenolic acid). This summary was updated by ECRI Institute on September 17, 2014. The updated information was verified by the guideline developer on October 15, 2014.

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